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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,293	11/14/2003	John Shearer Succop	EH-10942	2130

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EXAMINER	
CHAUDHRY, SAEED T	
ART UNIT	**PAPER NUMBER**
1746	

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/714,293	SUCCOP, JOHN SHEARER	
	Examiner	Art Unit	
	Saeed T. Chaudhry	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) 22-24 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-21 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restriction

Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I, Claims 1-21, drawn to a method of cleaning a part, classified in Class 134, subclass 22.1.

Group II, Claims 22-24, drawn to a part, classified in Class 415, subclass 115.

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (M.P.E.P. § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as cooling fluid in the part.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, have acquired a separate status in the art because of their recognized divergent subject matter, the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Ms. Tracey R. Laughlin on December, 12, 2005, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-21. Affirmation of this election must be made by applicant in responding to this Office action. Claims 22-24 are withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected invention.

The Title

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

Claims 1-5, 7-12, 12-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "turbine engine parts, blade or vane, does not reasonably provide enablement for any part having a cavity and an opening, such as cans or drums. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The specification discloses to clean turbine engine parts and does not referred to any other parts or given any examples of other parts.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (c) he has abandoned the invention.
> (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States.
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
> (f) he did not himself invent the subject matter sought to be patented.
> (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable

diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

Claims 1, 5-7, 10 and 13 are rejected under 35 U.S.C. § 102(b) as being anticipated by Beeck et al.

Beeck et al (2002/0090298) discloses a method of inspecting and cleaning turbine part. Wherein a turbine blade with a blade foot 1, platform 2, and also blade 3. Cooling air is supplied to the turbine blade from the blade foot 1 by means of the cavity 4 visible in the cross section. A dust discharge aperture 5 is shown at the blade tip in the forward region, i.e., in the leading region of the turbine blade, and dirt particles entrained with the cooling medium are discharged, due to their inertia, from the hollow channel 4 through the said dust discharge aperture 5.

Beeck et al do not specify that the part is prepare for cleaning or cleaning a part but the reference inherently clean the part which has an internal cavity (4), at least one opening at the bottom and creating an aperture (5) at the part tip, which is manufactured during the casting process. Further, Beeck et al discloses that "the aperture is preferably already considered when the component is cast and not, as is the case with the cooing air apertures, introduced by subsequent drilling" (see {0009]). Therefore, it inherently disclosed that the aperture is made by drilling in the tip. Further, cooling fluid passing through the cavity and the aperture inherently flush the foreign material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made

The factual inquiries set forth in Graham v. John Deere Co., 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

Claims 2-4, 8-9, 11-12, 14-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Beeck et al in view of Buongiorno.

Beeck et al were discussed supra. However, the reference fails to disclose a step of locating foreign material in the cavity, or locating with X-ray or closing the opening.

Buongiorno (5,679,174) discloses a method for cleaning deposits from gas turbine engine components, particularly turbine blades, by locating or drilling a hole into the cavity of the component, inserting a cleaning tube into the cavity and cleaning the deposits from the cavity with a cleaning material inserted into the cavity through the tube, followed by sealing any hole drilled in the component (see abstract).

It is well known in the art of turbine components that components of the turbine has cavity for circulating fluid through the components and bottom of the component has an opening as disclosed by Beeck et al. Therefore, it would have been obvious at the time applicant invented the claimed process to incorporate the cited steps of drilling an opening in the component as disclosed by Buongiorno into the process of Beeck et al for the purpose of removing the foreign material by flushing with water from the cavity of the component to increase the heat exchange capability of the component. Further, Buongiorno discloses to use x-ray to insure that the deposits have been removed and the hole drilled into the component is sealed with laser plug welding (see col. 2, lines 58-67). Therefore, one of ordinary skill in the art would have used x-

ray for locating the foreign material in the cavity and laser plug welding for sealing the hole for efficient cleaning and to return the component to the manufacturer's specification.

The Prior art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cuvillier (4,456,428) discloses a turbine blade having a central cavity 18, wherein cooling air is escape through opening 21 drilled in the cap 22.

Moss et al (4,604,031) disclose hollow fluid cooled turbine blades having a tip wall 54 has a number of apertures 86, 88, 90 for permitting cooling fluid to be blown over the tip of the aerofoil 44 for cooling purpose.

Hall et al (4,820,122) disclose a dirt removal means for an internally air cooled blade for a gas turbine blade

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saeed T. Chaudhry whose telephone number is (571) 272-1298. The examiner can normally be reached on Monday-Friday from 9:30 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Barr, can be reached on (571)-272-1414. The fax phone number for non-final is (703)-872-9306.

When filing a FAX in Gp 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Saeed T. Chaudhry
Patent Examiner

MICHAEL BARR
SUPERVISORY PATENT EXAMINER